Remarks

Claims 1-9 and 11-22 are pending.

Rejections

Claims 1-6 and 11-18 remain rejected under 35 USC 103(a) as being obvious over the combination of GB 1,176,217 and Pollard, US 3,728,143 in view of Macmahon, et.al., US 4,264,552. Claim 22 is likewise rejected over the same art.

Applicants respectfully traverse the rejections.

GB 1,176,217 discloses grinding pigments with an aqueous solution of hydroxyalkylcelluose ethers to prepare a composition which uniformly colors coatings, plastics etc. There is no mention of using amines, amides or esters. Pollard US 3,728,143 discloses a pigment treated with fatty acid amides. The Action states that it would be obvious to combine Pollard with GB 1,176,217 to produce the instant pigment composition. Macmahon, US 4,264,552, provides a pigment composition wherein, for reasons of cost, the additive is preferably present in amounts of as little as 0.5 – 20% .

The Examiner has dismissed without comment Applicants assertion that the teachings of GB 1,176,217 and Pollard, US 3,728,143 can not be combined as they are contradictory. Applicants again, and respectfully assert, that the methods described in the two patents make their combination unfeasible. One simply can not use the method of Pollard, US 3,728,143 wherein a pigment is coated with a molten amide at elevated temperatures, i.e., 200°C to 212°F, with the aqueous solution of hydroxyalkylcelluose ethers as found in GB 1,176,217, given that the boiling point of water is 100 C. As a further example of incompatibility Applicants also point out that '217 requires wet-milling, while '143 requires the pigments to be dispersed into molten resin; cellulose does not melt, while the resins of '143 are not soluble in water.

Applicants therefore respectfully assert that only by hindsight analysis can one combine these two pieces of art to suggest the instant invention.

Applicants also respectfully note that the instant claims specify that the modified cellulose, has on average per glucose unit, from 0.5 to 1.4 hydroxyl hydrogen atoms replaced by R_1, or from 0.25 to 0.6 hydroxyl hydrogen atoms replaced by R_2, or from 0.5 to 1.4 hydroxyl hydrogen atoms replaced by R_1 and from 0 to 0.6 hydroxyl hydrogen atoms are replaced by R_2.

Attached is a declaration submitted under rule 132 signed by inventor Balliello showing the importance of the specific cellulose binder, the importance identity of the second binder, and the synergy obtained when these are used in the appropriate quantities; i.e., the quantity of modified cellulose is at most 60% of the total binder but there may be up to up to 95% of the second binder. The data in the declaration clearly demonstrates the unexpected advantages of the instant composition as claimed.

The table at the top of page 3 of the declaration shows that Pigment Red 254 processed with a common modified cellulose according to the art (entry B) results in a pigment with poor dispersion in PVC. Addition of trioctyl amine to this composition (entry C) made the dispserability worse. However, when Pigment Red 54 is part of a composition according to the instant invention (entry A), a combination with the select modified cellulose derivative and tallow alkyl amine (ARMEEN T), a non-dusting pigment composition with much better dispersibility is obtained.

Pigment Orange 64 and Pigment Yellow 110 were similarly processed and incorporated into low density polyethylene. The tables on page 4 again show that the composition of the instant invention gave good dispersibility in LDPE and much higher color yield (entries E and K) than any of the comparison samples.

These results show clearly that one can not combine just any modified cellulose with any second binder to achieve the surprisingly excellent results of the invention. This data also shows that the different classes of additives found in the cited art are not merely interchangeable surfactants with the same activity, but that synergistic combinations of these materials, as discovered by Applicants, allows one to use significantly less binder.

These results could not be predicted from the art.

Applicants further respectfully maintain that even if one combined GB 1,176,217 and Pollard, US 3,728,143 and Macmahon, et.al., US 4,264,552, it would still not provide the limitations of the instant claims. For example, GB 1,176,217 discloses pigment compositions comprising **at most 90%** of pigment, especially from 20 to 80% of pigment (page 2 / lines 22 24). US 3,728,143 teaches pigment compositions comprising **at most 90%** of inorganic pigment, or at most 75% of organic pigment (column 3 / lines 72- 75). The instant compositions contain **between 92-97%** of **organic** pigment, higher than the 90% of '217 and the 75% of '143.

The instant compositions also contain at most, 4.8% of a cellulose derivative (8% × 60% = 4.8%) compared with the at least 10%, preferably 20%, cellulose derivative found in '217.Furthermore, even if the skilled artisan replaced part of the binder of '217 with an amine, amide or ester, he would still not reduce the total amount of binder to the instant very low quantity.

Applicants respectfully rebut the analysis in the paragraph that bridges page 5 and page 6 of the present Action suggesting that because '217 discloses a 1:9 ratio of cellulose to pigment and Pollard discloses a 1:9 ratio of amide to pigment that the combination of the two pieces of art gives rise to a pigment composition comprising a 1:1 ratio of cellulose to amide, and because Macmahon, et.al., US 4,264,552 teaches the desirability of low binder concentrations, the limitations of claim 1 of less than 8% binder comprising less than 60% cellulose and more than 40% of an amine, amide or ester based second binder are met.

First, there is no suggestion to combine the instant cellulose with the instant second binder, nor is there any teaching as to how this would be done in light of the mutually exclusive processing conditions of '217 and Pollard.

Secondly, each of '217 and Pollard teach that there must **be at least 10%** of cellulose or amide based on pigment. At best, one might try to replace part of one with the other and have 10% binder. However, how could one expect that combining the two would allow one to use less overall binder AND lead to better dispersibility as shown in the declaration.

Third, the declaration shows that the two components of the instant binder are not merely interchangeable surfactants, but rather together form a system more desirable than either alone.

Finally, while Macmahon, et.al., US 4,264,552 teaches that less binder is desirable, there is no suggestion that the preparation of the instant composition would allow one to achieve that goal nor is there any teaching that as to how to go about it. Macmahon may have identified a long sought after economic goal, Applicants' invention provides a novel means for attaining it that can only be deduced in hindsight.

Thus, Applicants respectfully maintain that the teachings of GB 1,176,217 and Pollard, US 3,728,143 are incompatible and even combined with US 4,264,552, there is no suggestion leading one to the unexpected improvements of the instant invention. Given the declaration and the above discussion, Applicants respectfully submit that the rejections of claims 1-6 and 11-18 under 35 USC 103(a) over GB 1,176,217 and Pollard, US 3,728,143 in view of Macmahon, et.al., US 4,264,552 are addressed and are overcome and kindly ask that the rejections be withdrawn.

Claims 7, 9, 20 and 21 are rejected under 35 USC 103(a) as being obvious over the above combination of GB 1,176,217 and Pollard, US 3,728,143 in view of Macmahon, et.al., US 4,264,552 in further view of Schneider, et.al., US 5,681,876.

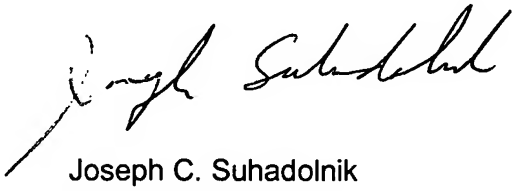
Claim 19 is rejected under 35 USC 103(a) as being obvious over the above combination of GB 1,176,217, Pollard, US 3,728,143, Macmahon, et.al., US 4,264,552, and Schneider, US 5,681,876 in view of Kurtz, US 5,082,498.

Applicants respectfully traverse the rejections.

Applicants refer to the above discussion regarding '217, '143 and '552 and note that Schneider, et.al., US 5,681,876 does not overcome these deficiencies nor does Kurtz, US 5,082,498.

In light of the above amendments and discussion, Applicants respectfully submit that all rejections and objections are addressed and are overcome and kindly ask that they be withdrawn and claims 1-9 and 11-22 be found allowable. In the event that minor amendments will further prosecution, Applicants request that the examiner contact the undersigned representative.

Respectfully submitted,



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ENCLOSED: declataion under rule 132 of Balliello